

Amendment and Response

Applicant: Leo W. Spychalla

Serial No.: 10/725,259

Filed: December 1, 2003

Docket No.: 10413US01/201.191.101

Title: DATA STORAGE CARTRIDGE WITH HARD DRIVE AND ALIGNMENT FEATURE

IN THE CLAIMS

Please amend claims 1, 13, and 16, and 18 as follows:

1. (Currently Amended) A data storage cartridge comprising:
a housing defining an interior cavity, an access window, and at least one alignment feature positioned within the interior cavity, wherein the housing includes a polymeric material;
~~and~~
a hard drive maintained within the interior cavity, the hard drive having at least one electrical connection point, wherein the at least one alignment feature is configured to interact with the hard drive to at least partially align the at least one electrical connection point relative to the access window; and
an attachment device separate from the housing and inserted through one of the at least one alignment feature to at least partially secure the hard drive within the housing.
2. (Original) The data storage cartridge of claim 1, wherein the hard drive includes at least one alignment feature to mate with the at least one alignment feature of the housing to at least partially align the at least one electrical connection relative to the access window.
3. (Original) The data storage cartridge of claim 1, wherein the housing defines a Y-direction parallel to a length of the access window, and a X-direction perpendicular to a width of the access window, the at least one alignment feature of the housing configured to align the at least one electrical connection point relative to the access window in at least one of the X-direction and the Y-direction.
4. (Original) The data storage cartridge of claim 3, wherein the at least one alignment feature of the housing includes an alignment post configured to align the at least one electrical connection point relative to the access window in the X-direction.

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5. (Original) The data storage cartridge of claim 4, wherein the alignment post defines a first tier having a first diameter and extending from a first major member of the housing and a second tier having a second diameter and extending from the first tier opposite the first major member of the housing, the first diameter being greater than the second diameter.

6. (Original) The data storage cartridge of claim 4, wherein the at least one alignment feature of the housing further includes a second alignment post configured to align the at least one electrical connection point relative to the access window in the X-direction.

7. (Original) The data storage cartridge of claim 4, wherein the hard drive includes a mounting cavity configured to receive the alignment post.

8. (Previously Presented) The data storage cartridge of claim 3, wherein the at least one alignment feature of the housing includes an alignment rib defining a substantially planar surface extending in a direction substantially perpendicular to the access window, the alignment rib being configured to align the at least one electrical connection point relative to the access window in the Y-direction.

9. (Previously Presented) A data storage cartridge comprising:

a housing defining an interior cavity, an access window, at least one alignment feature positioned within the interior cavity, and a Y-direction parallel to a length of the access window, the housing including a polymeric material, wherein the at least one alignment feature includes an alignment rib defining a substantially planar surface extending in a direction substantially perpendicular to the access window; and

a hard drive maintained within the interior cavity, the hard drive having at least one electrical connection point, wherein the hard drive includes an alignment slot configured to receive the alignment rib, the alignment rib being configured to align the at least one electrical connection point relative to the access window in the Y-direction.

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10. (Original) The data storage cartridge of claim 8, wherein the alignment rib is positioned adjacent the access window.
11. (Original) The data storage cartridge of claim 8, further comprising an alignment post configured to align the at least one electrical connection point relative to the access window in the X-direction.
12. (Original) The data storage cartridge of claim 1, wherein the at least one alignment feature of the housing is configured to align the at least one electrical connection point relative to the access window in at least one of the X-direction and the Y-direction with a tolerance range of +/-0.005 inches.
13. (Currently Amended) A data storage cartridge comprising:
a housing including a polymeric material and a first major and planar member that ~~forms~~ defines at least three sides of an access window, the housing defining an interior cavity and at least one alignment feature positioned within the interior cavity; and
a hard drive maintained within the interior cavity, the hard drive having at least one electrical connection point;
wherein the at least one alignment feature of the housing is configured to interact with the hard drive to align the at least one electrical connection point relative to the access window in a Z-direction that is perpendicular to the first major and planar member.
14. (Original) The data storage cartridge of claim 13, wherein the at least one alignment feature of the housing includes an attachment pillar configured to align the at least one electrical connection point relative to the access window in the Z-direction.
15. (Original) The data storage cartridge of claim 14, wherein the attachment pillar defines a passage axially extending through the attachment pillar, and the data storage cartridge further comprises:

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an attachment device inserted through the passage and into the housing to facilitate alignment of the at least one electrical connection point relative to the access window in the Z-direction.

16. (Currently Amended) The data storage cartridge of claim 15, wherein the at least one alignment feature further includes at least one alignment post configured to align the at least one electrical connection point relative to the access window in the X-direction and an alignment rib configured to align the at least one electrical connection point relative to the access window in the Y-direction, and further wherein ~~each of the attachment pillar, and the alignment post, and the alignment rib~~ each have a different geometry than the alignment rib.

17. (Original) The data storage cartridge of claim 1, wherein the housing defines a length less than 6 inches and a width less than 5 inches.

18. (Currently Amended) A method of assembling a hard drive to a housing of a data storage cartridge, the method including:

providing a housing of a data storage cartridge formed of a polymeric material and configured for use in an automated library system, the housing defining an access window;

~~placing~~ enclosing the hard drive within the housing, the hard drive including at least one electrical connection point; and

aligning the at least one electrical connection point relative to the access window in at least one of an X-direction extending substantially parallel to a width of the access window and a Y-direction extending substantially parallel to a length of the access window;

wherein the step of aligning the at least one electrical connection point relative to the access window positions the at least one electrical connection point to be accessible from a position external to the data storage cartridge via the access window.

19-20. (Cancelled)

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21. (Previously Presented) The data storage cartridge of claim 1, wherein the housing includes a first planar member defining the access window, and the at least one alignment feature extends from the first planar member to interact with the hard drive to position the at least one electrical connection point to be contacted through the access window.

22. (Previously Presented) The data storage cartridge of claim 1, wherein the housing includes a cover and a base coupled to the cover to define the interior cavity therebetween, the base defining the access window and the at least one alignment feature.

23. (Previously Presented) The data storage cartridge of claim 22, wherein each of the base and the cover are formed as a single piece.

24. (Previously Presented) The method of claim 18, wherein the step of aligning the at least one electrical connection point includes placing the at least one electrical connection point in a position to be transversely contacted by a cartridge drive through the access window.